

FIGURE 1

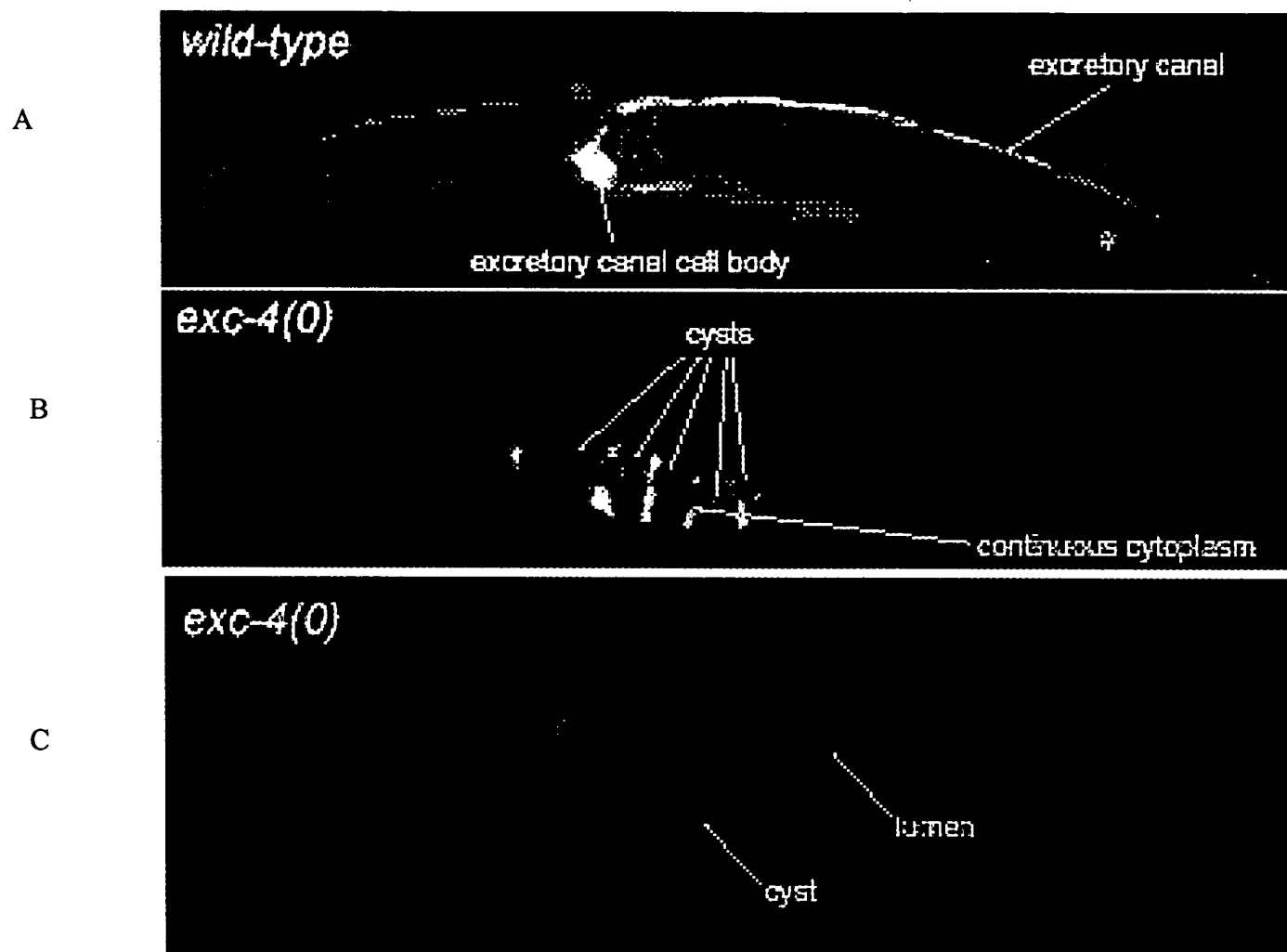


FIGURE 2

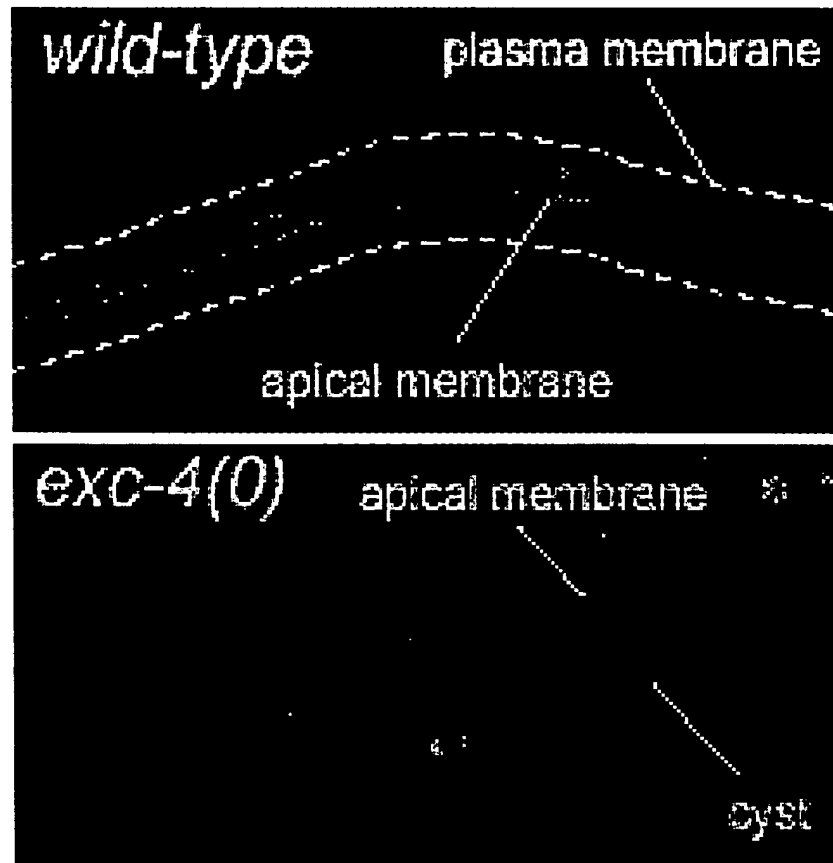


FIGURE 3

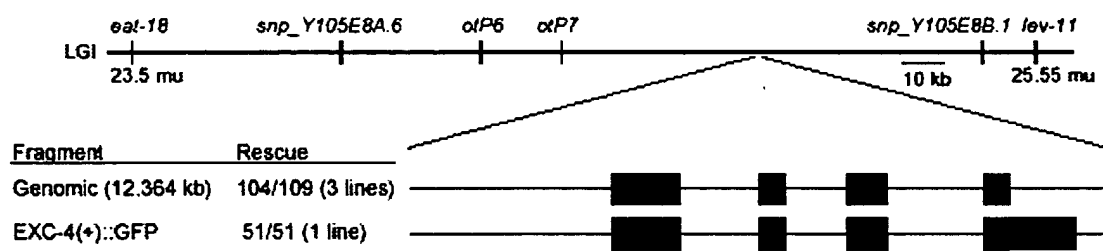


FIGURE 4

#6
 hCLIC5 MZDSATANG---DDSD E LN VKA-GIDSGEIGMCPPSCORLP W-KGVVF VTT DL- R PADL NLAF: 8
 hCLIC4 MALSNFLNGLKZEDKZEL LN VKA-GSDGSEIGMCPPSCORLP W-KGVVF VTT DL- R PADL NLAF: 71
 hCLIC3 -----KLC VKA-SDGSESIGMCPPSCORLP L-KGVVF TT DT- RBP VL DLAF: 29
 hCLIC2 M--SGLRPG---TOVDEE LN VKA-GSDGSEIGMCPPSCORLP W-KGVVF VTT DM-TR P EL DLAF: 66
 hCLIC1 M-----AZZQFC LN VKA-GSDGSEIGMCPPSCORLP W-KGVVF VTT DT- R T OKICE: 60
 EXC-4 MAAATQIQSNQDPQSKLL LN VKASGID RRICADLLCQSF E A YE GVARVE RTVNVNE AF KNFL: 74
 →rh133 = stop
 hCLIC5 BP FLT NG--K VNR EFLLET TFL YP AAKRRSENYAGID FKH SAYIKK KQQRSAALG G:140
 hCLIC4 BP FLY WS--K VNR EFLLEV CPP VL SPEDSENYAGND FKH SAYIKK RPEASEALG G:143
 hCLIC3 L XL DS--AK TLO FLEET CPP PS AP YRESNYAGND FKH SA IENFVPAC EALYQO:101
 hCLIC2 P FL NK--K FIK EFLCOT APP YP SPHYKSEFDVGC FKH SAYIKK OKKAKKFLG S:138
 hCLIC1 G L PL GT--TKK EFLLEV CPP YP AALNPESENYAGLD FKH SAYIKK NPALDNLL G:132
 EXC-4 A P I EKKELTY NRE GR FH-AKEFNVP FREDPS KRIR RE KL AKVEFDKGNKPS:167
 #3
 hCLIC5 LTRALK LQVYK PLE E DAN CG-OKGB R F D DEL LA S L K H V V KHYR D AEM G:213
 hCLIC4 LKFLQ LQVYK PLE E DEN ME-IKFSTR F D NE LA S L K H V V KHYR D KEM G:216
 hCLIC3 LL ALA LQVYK PLE E AGEF--O-LRES R F D DEL LA S L K H V V KHYR D AELRG:172
 hCLIC2 LKSEFK LQVYK PLE E DFD AG-PPVS RIF D DEL LA S L K LI A KHYR D AEF G:211
 hCLIC1 LKAKVLEHIT PLE E DET AE-EGVSR F D DEL LA S L K H V V KHYR D EAFRC:208
 EXC-4 R EDLPQIKVHYR C SHID--QLLSER S L NS LY E RE LSLLG D R F R:219
 →n561 = stop
 hCLIC5 WR LKN VAR E TET AADSEIELA ADVANRI RS-----:251
 hCLIC4 WR LTV YSR E TET PSDGE EIA SDVANRI K-----:253
 hCLIC3 WR LOS NQKEE KYT PRAZHLAA RFAV PR-----:207
 hCLIC2 WR LSN VAR E TET PDKKELNT AEVYQK-----:247
 hCLIC1 WR LSH VAR E AST PDDSEIELA EOVYALK-----:241
 EXC-4 WA LT RTAA IE PADG IIRH KEQNLFP NQREYLQSPYKTHYFEXVLSDIRVKG LAPD VVVE:290
 →n2400 = Lau

holo:
 sheet

FIGURE 5

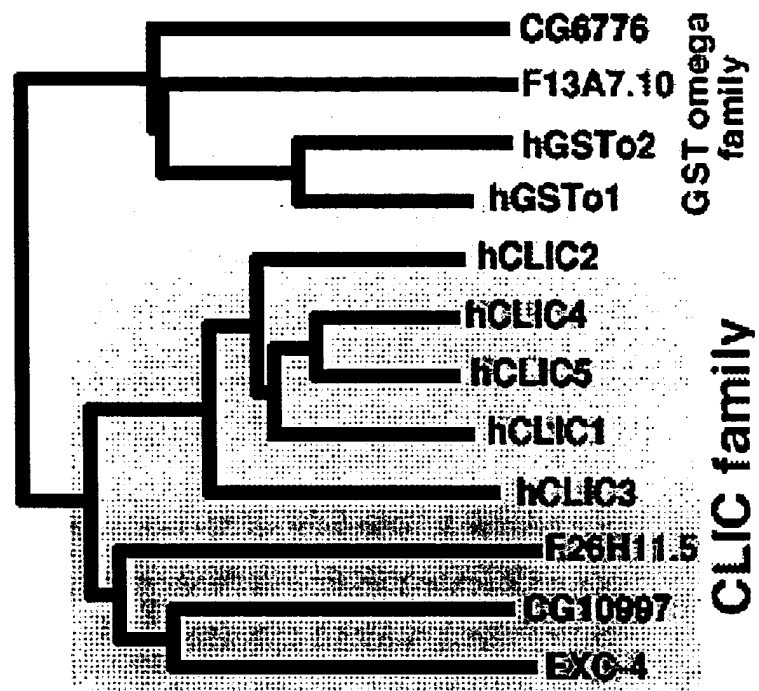


FIGURE 6

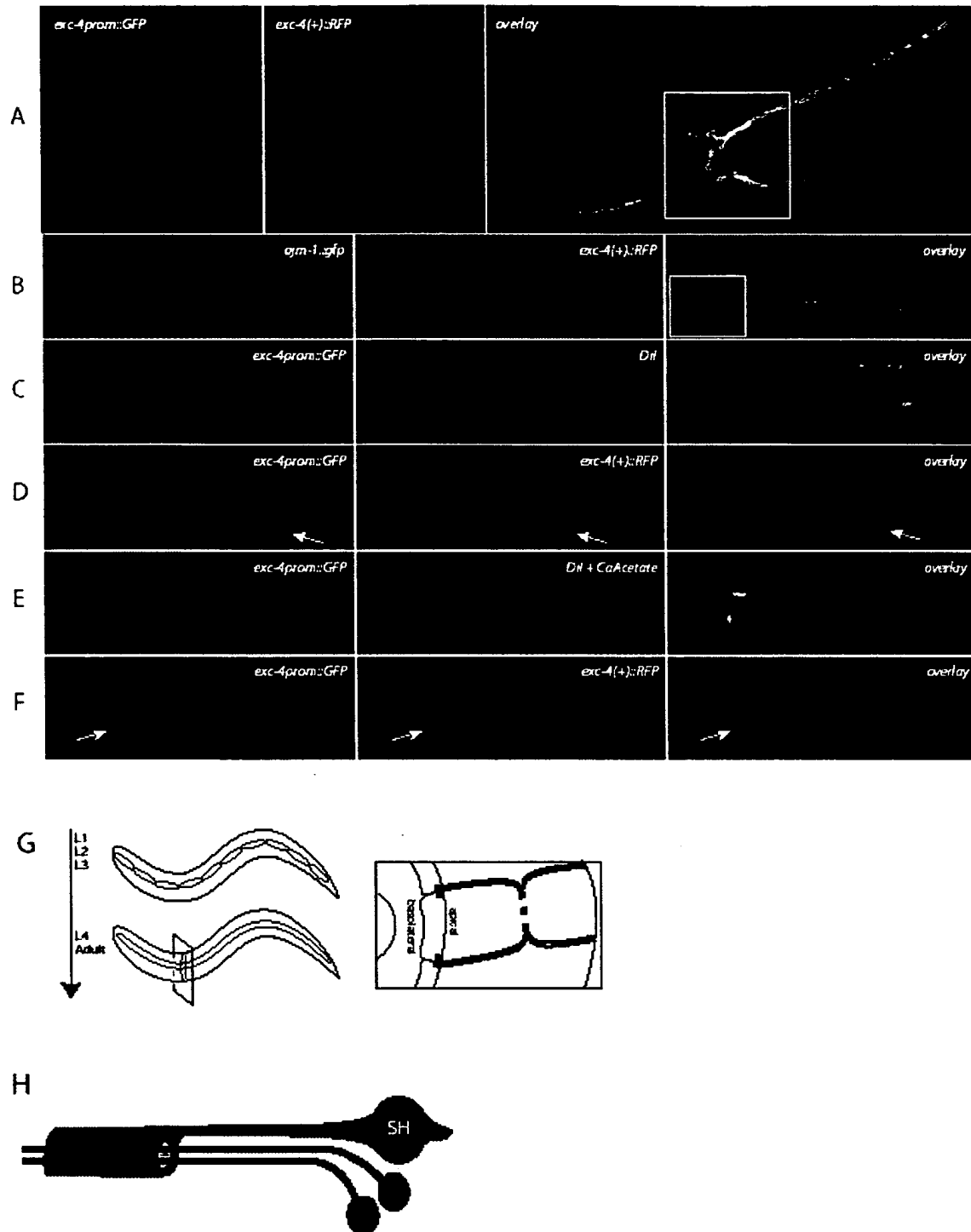








FIGURE 8

A

N	NAME	LOCALIZATION	GFP FUSION CONSTRUCT
#1	<i>exc-4prom::exc-4(+):GFP</i>	apical	
#2	<i>exc-4prom::exc-4(P238L):GFP</i>	cytoplasmic	
#3	<i>exc-4prom::exc-4(R202Stop):GFP</i>	apical	
#4	<i>exc-4prom::exc-4(PTM):GFP</i>	apical	
#5	<i>exc-4prom::exc-4(TTM):GFP</i>	mixed	
#6	<i>exc-4prom::GFP</i>	cytoplasmic	

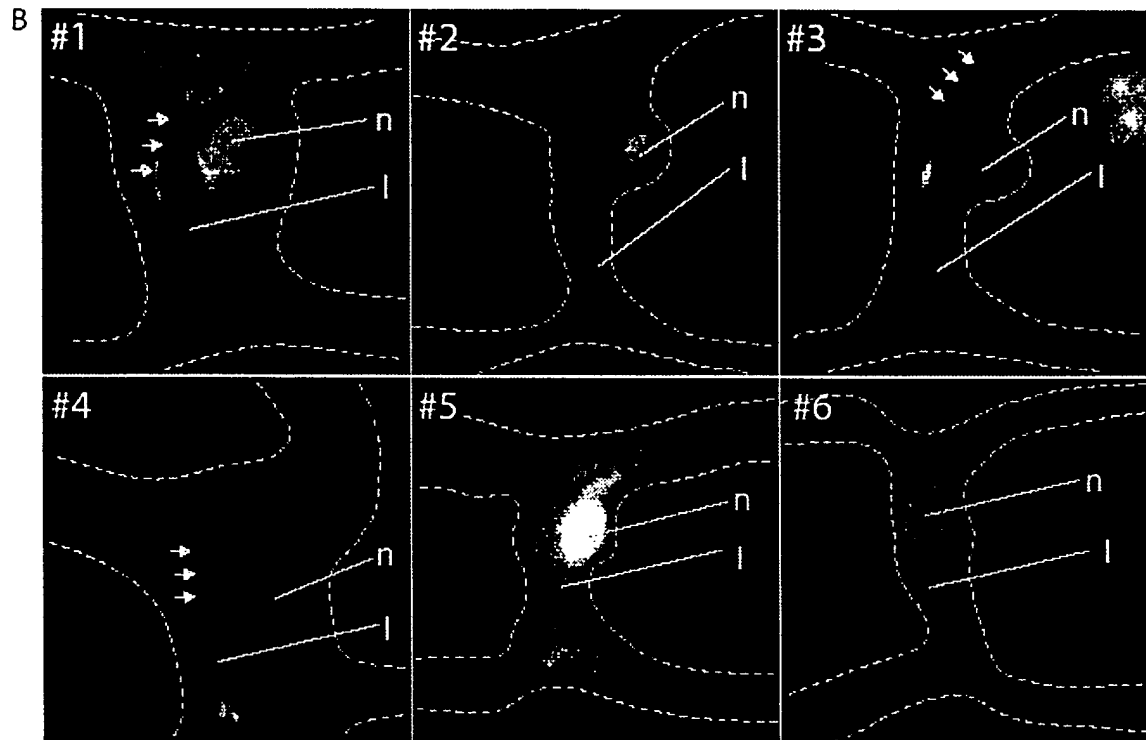


FIGURE 9

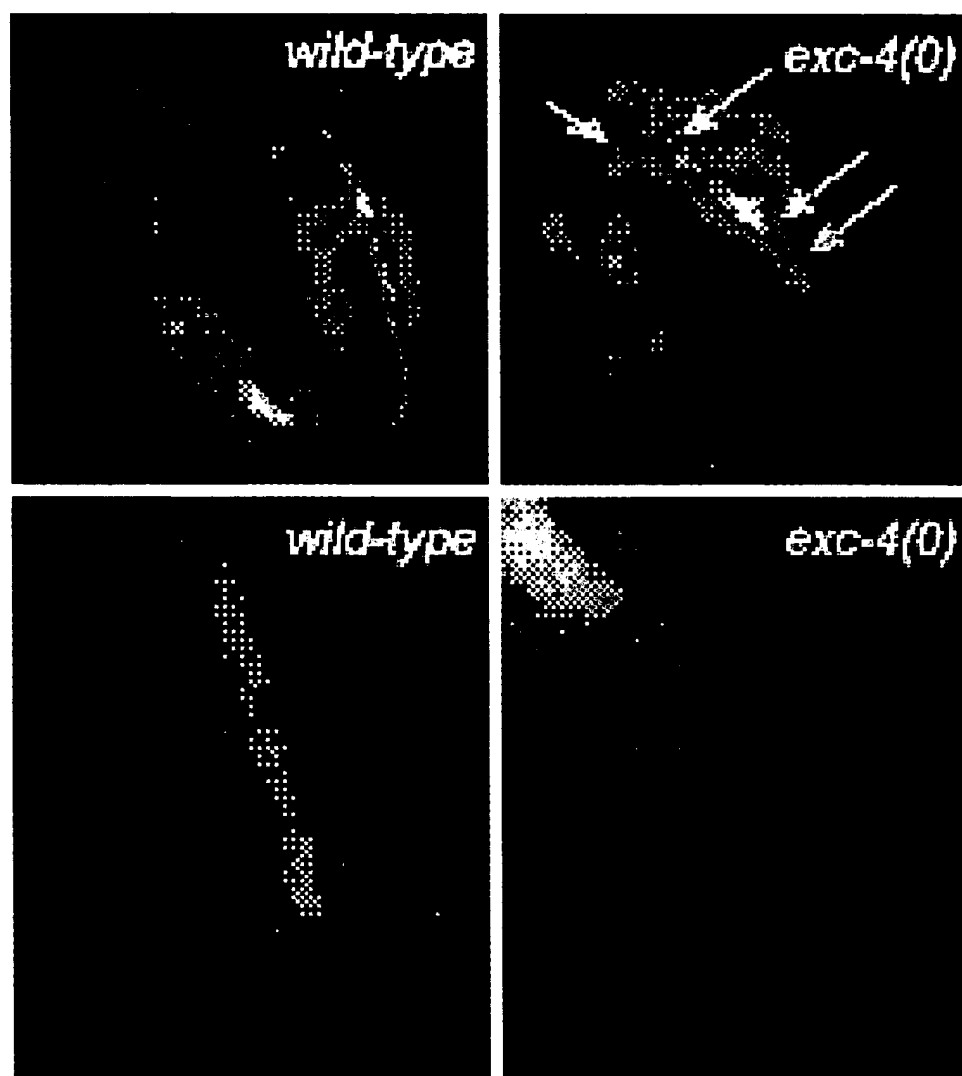


FIGURE 10

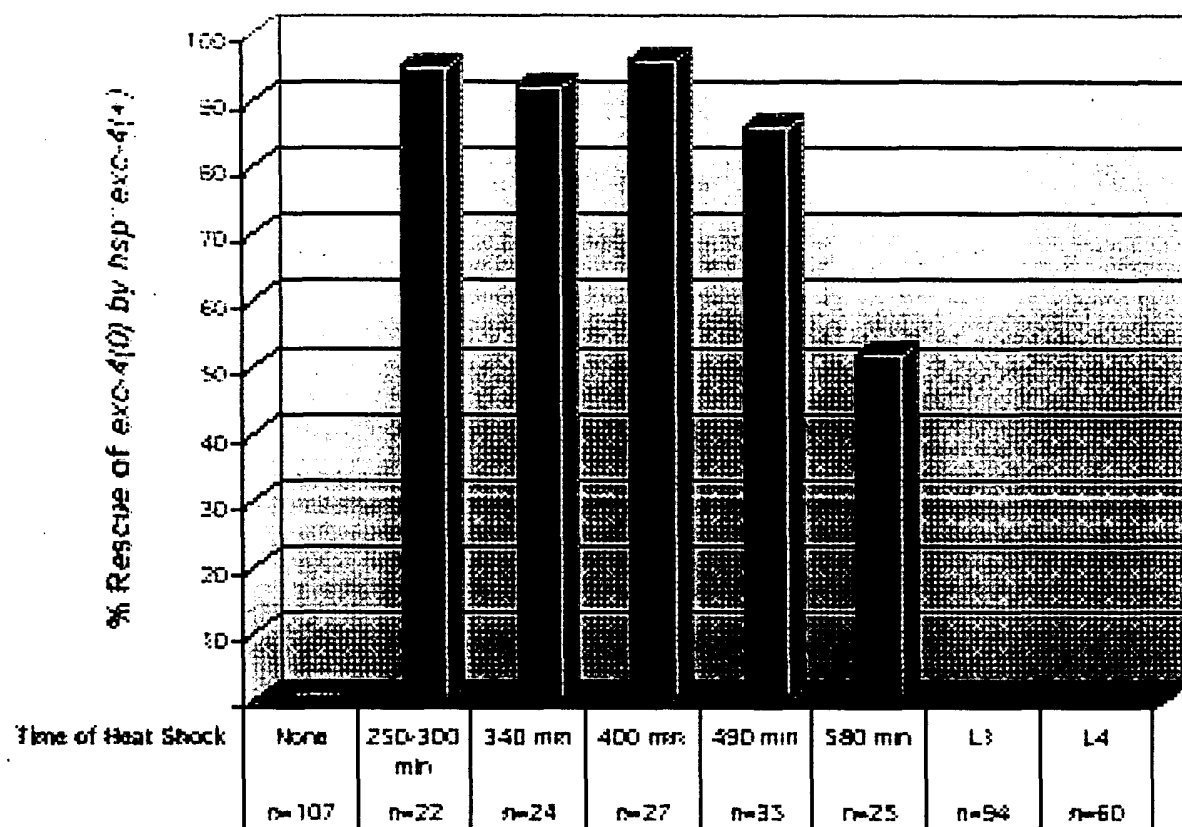


FIGURE 11

Stage	<i>exc-4(+)</i> Embryos				<i>exc-4(+)</i> Larvae				
	400'	480'	500'	550'	0hr	0hr	2hr	4hr	4hr
ER	+	++	+++	+++	++	++	++	+	+
Golgi (GO)	+	++	++	++	+++	+++	+	+	+
Vacuole (TU)	-	++	++	-	-	-	-	-	-
Lumen (TU)	-	-	-	+	++	++	++	++	++
Canaliculi (CI)	-	-	-	+/-	++	++	+++	++	++
ER,GO / TU,CI	NA	5:1	4:1	4:1	1:1	1:1	1:2	1:3	1:4

FIGURE 12

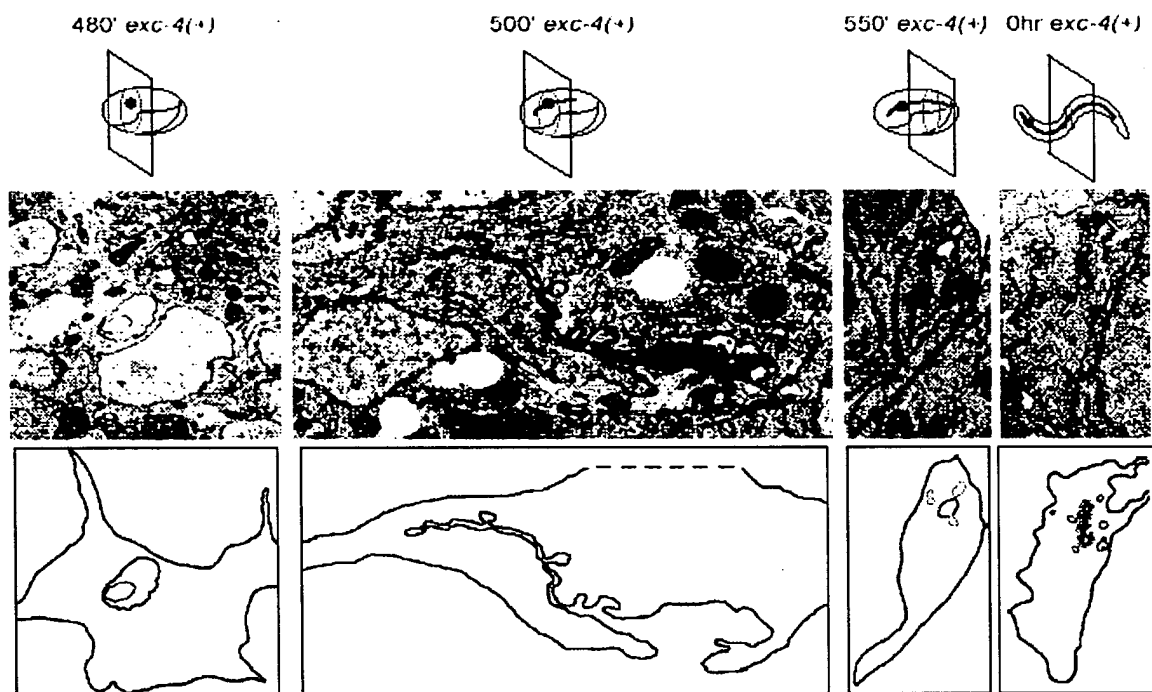
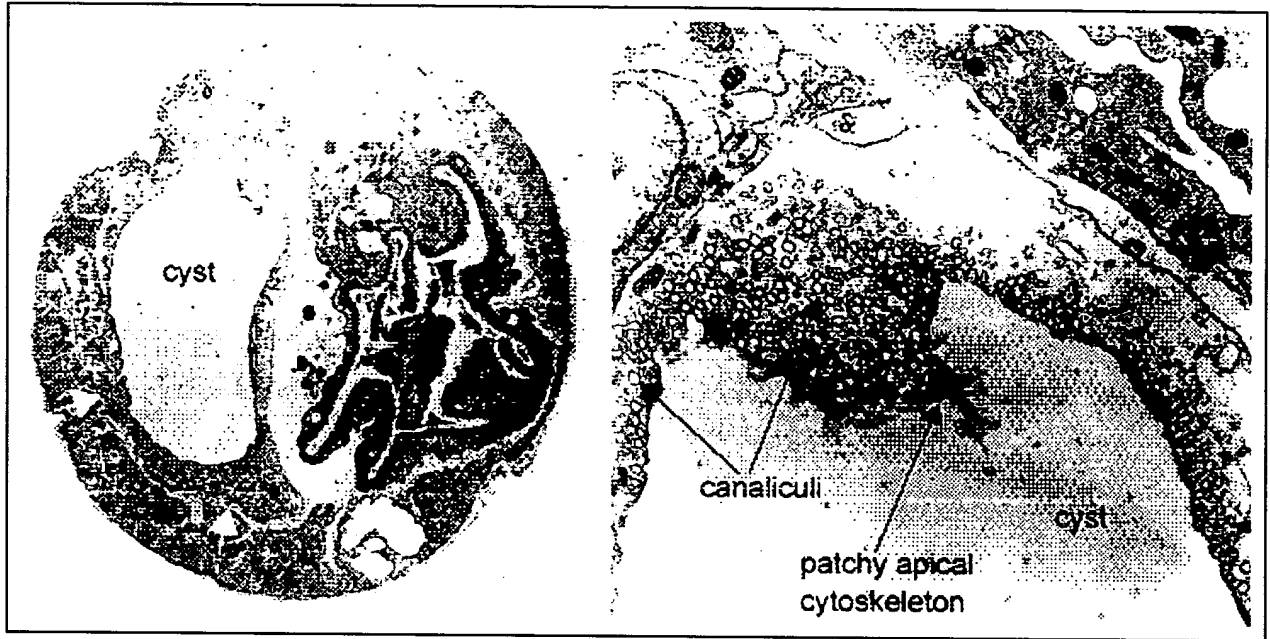


FIGURE 13



A

B

FIGURE 14